Kingbright

**4.0x4.0mm RIGHT ANGLE SURFACE MOUNT LED LAMP**

Part Number: AA4040YS   Yellow

Features

● Single color.

● Suitable for all SMT assembly and solder process.

● Available on tape and reel.

● Ideal for backlighting.

● Package : 500pcs / reel.

● Moisture sensitivity level : level 3.

● RoHS compliant.

Description

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Package Dimensions
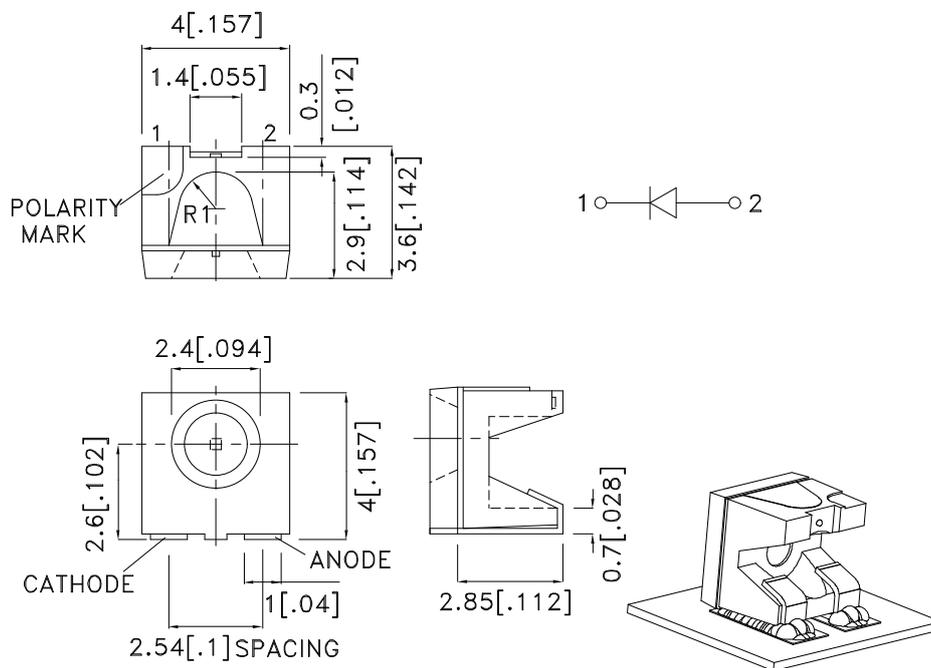
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

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Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.
As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.
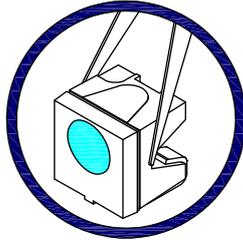
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
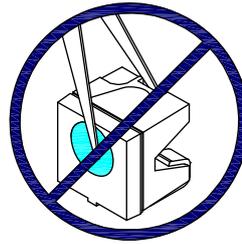
3. As silicone encapsulation is permeable to gases, some corrosive substances such as H_2S might corrode silver plating of leadframe. Special care should be taken if an LED with silicone encapsulation is to be used near such substances.

All design applications should refer to Kingbright application notes available at
http://www.KingbrightUSA.com/ApplicationNotes

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Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
			Min.	Typ.	2θ1/2
AA4040YS	Yellow (GaAsP/GaP)	Water Clear	8	12	120°

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity/ luminous Flux: +/-15%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

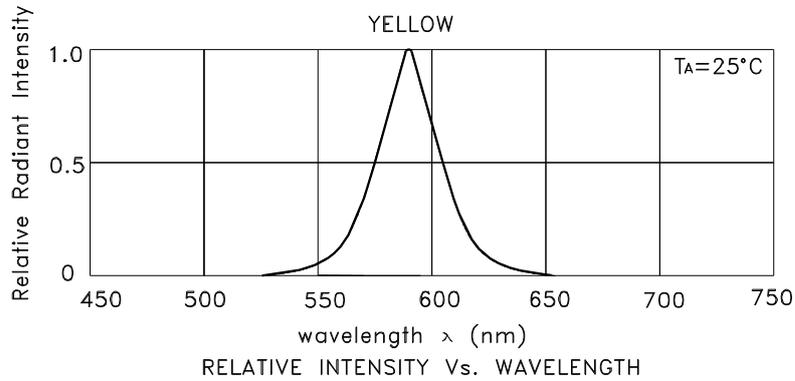| Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Yellow	590		nm	I_F=20mA
λD [1]	Dominant Wavelength	Yellow	588		nm	I_F=20mA
$\Delta\lambda$1/2	Spectral Line Half-width	Yellow	35		nm	I_F=20mA
C	Capacitance	Yellow	20		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Yellow	2.1	2.5	V	I_F=20mA
I_R	Reverse Current	Yellow		10	uA	V_R=5V

Notes:
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

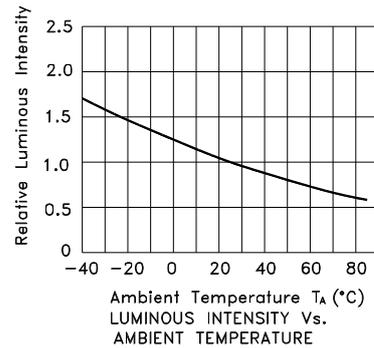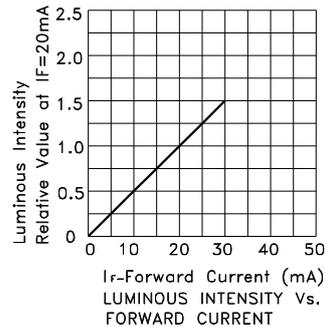| Parameter	Yellow	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	140	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

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YELLOW

$T_A = 25°C$

Relative Radiant Intensity

RELATIVE INTENSITY Vs. WAVELENGTH

wavelength λ (nm)

Yellow   AA4040YS

FORWARD CURRENT Vs.
FORWARD VOLTAGE

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

SPATIAL DISTRIBUTION

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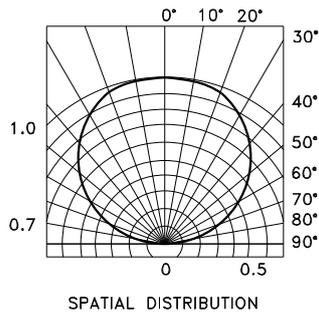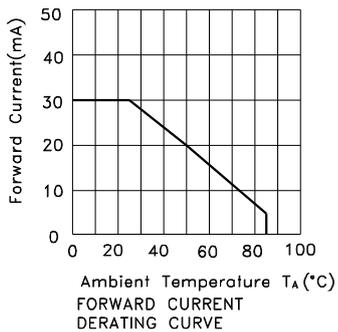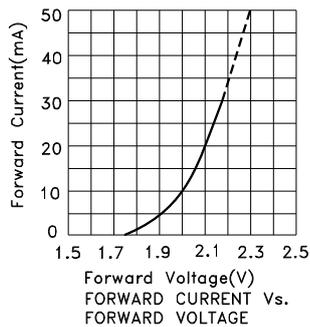
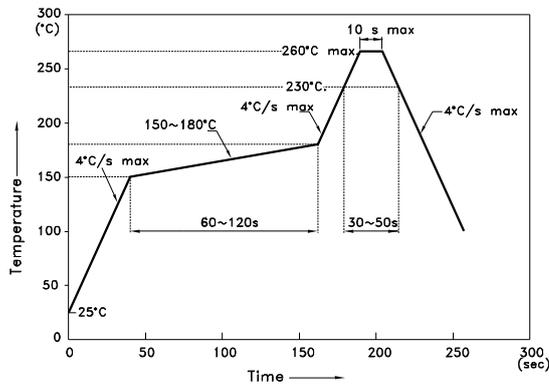**AA4040YS**

Reflow soldering is recommended and the soldering profile is shown below.
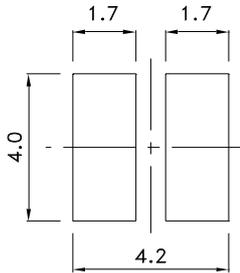Other soldering methods are not recommended as they might cause damage to the product.

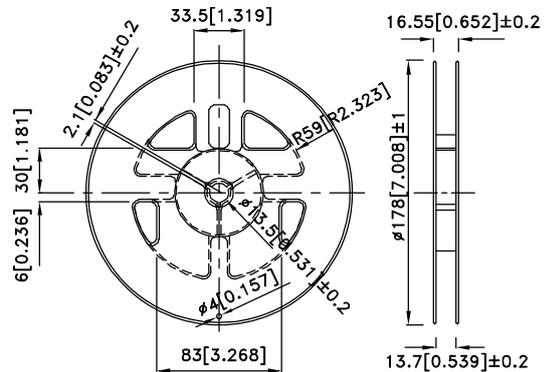Reflow Soldering Profile For Lead-free SMT Process.

NOTES:
1. We recommend the reflow temperature 245°C(+/−5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
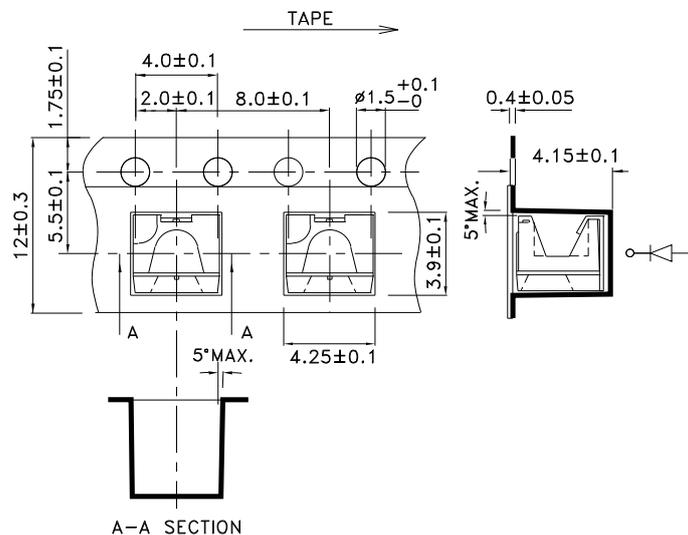3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern
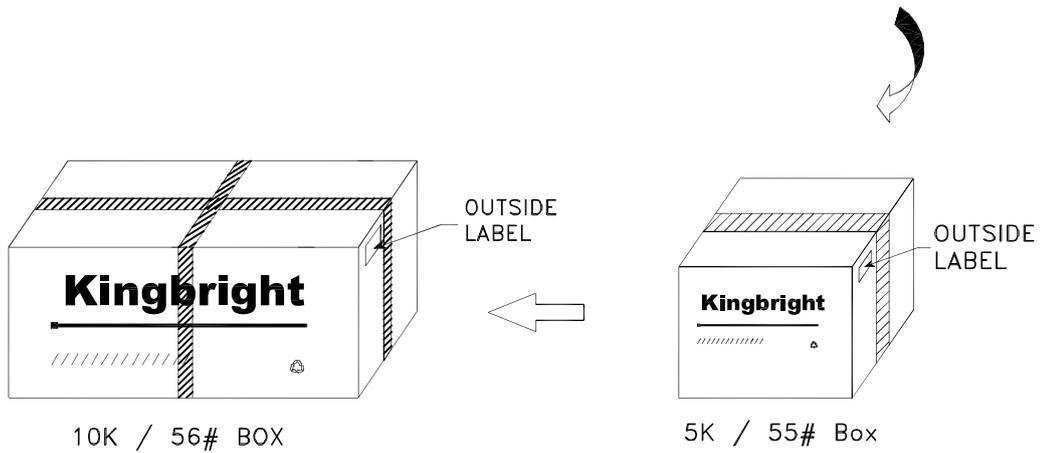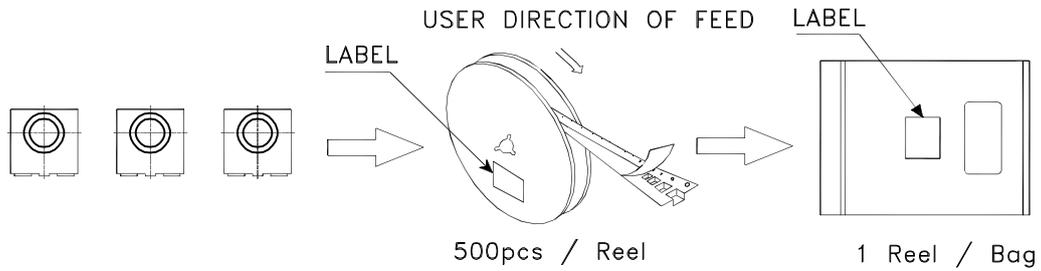**(Units : mm; Tolerance: ± 0.1)**

Reel Dimension

Tape Dimensions
(Units : mm)

A-A SECTION

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PACKING & LABEL SPECIFICATIONS   **AA4040YS**

USER DIRECTION OF FEED   LABEL

LABEL

500pcs / Reel   1 Reel / Bag

OUTSIDE LABEL

OUTSIDE LABEL

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10K / 56# BOX   5K / 55# Box

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P/NO: AA4040xxx

QTY: 500 pcs   Q.C.   Q C
xx xx xxxx
S/N: XXXX   PASSED
CODE: XXX

LOT NO:

xxxxxxxxxxxxxxxxxxxxxx

RoHS Compliant